



NCTIP

National Center for Transportation and Industrial Productivity
New Jersey Institute of Technology

To: Nick Vitillo

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Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Economic & Quality of Life Impacts of Rt 21 Freeway Construction | | |
| RFP Number: 2001-08 | NJDOT Research Project Manager: R Sasor | | |
| Task Order Number/Study Number NCTIP-034 | Principal Investigator: Golub, Eugene | | |
| Period Starting: 01/01/2002 - 12/31/2006 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|--------------|---------------------------|----------------------|------------------------|
| Phase I: Literature Review | 3 | 0 | 100 | 3 |
| Task 1: Pre-construction, economic conditions | 4 | 0 | 100 | 4 |
| Task 2: Familiarization with Route 21 | 4 | 25 | 100 | 4 |
| Task 3: Familiarization with Context Design | 4 | 0 | 100 | 4 |
| Task 4: Familiarization with Baseline data | 4 | 25 | 100 | 4 |
| Task 5: Develop study methodologies | 75 | 5 | 20 | 15 |
| Task 6: Prepare interim annual reports | 3 | 0 | 90 | 2.7 |
| Task 7: Prepare quarterly / final reports | 3 | 6 | 20 | 0.6 |
| Final Report | | | | |
| TOTAL | 100 % | | | 37.3 % |

1. Progress this quarter by task:

Phase1 The literature search is complete.

Task3 Familiarization with CSD is almost complete. Additional work includes discussion with other NJDOT personnel as to how CSD was applied on this project.

Task2 Familiarization with the Rt 21 design and Baseline Data is complete. The NJDOT data has been obtained and has been reviewed. Additional data is being developed from other local and County Sources.

Task4 The project team has completed review of NJDOT 2001 baseline data.

Task5 A photographic record of the project has been undertaken and is near completion. It includes photoscapes of the area in proximity of the project as well as photos of the areas thought to be of importance by the NJDOT. these records are compiled on CD's.

Professional staff from both communities were individually interviewed and a compilation is being developed. Further, the local merchant associations have likewise been interviewed.

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Surveys have been sent to elected officials & professional staff in both municipalities. Individual surveys are being conducted with merchants in both municipalities.

Traffic counts are being conducted at key intersections as per NJDOT original studies.

Noise readings are being taken at key locations as per original NJDOT studies.

Data is being compiled for Clifton on all sales of properties and the variation in prices as well as the total assessed valuation of the town for the last 10 years. Similar data has been requested from Passaic.

Accident data in the two towns is in the process of being developed to demonstrate changes that have occurred in the last few years.

Additional photography has been taken at important locations.

Base photographic record is being digitized for a permanent record that is easily organized.

We are obtaining sales reports from City of Passaic.

Surveys have been digitized and analyzed.

An interim annual report has been submitted in draft form. This has been finalized this quarter.

The photographic record taken during the project has been digitized and is in the process of being organized into a usable computer file.

Planning for the second year analysis and data gathering has been completed.

The photographic record taken during the project has been digitized and has been organized into a usable computer file.

The Interim Annual Report has been reviewed by NJDOT, Clifton & Passaic and their comments included in the report.

2. Proposed activities for next quarter by task:

New data will be gathered in surveys, photography and published economic data and accident reports.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 5 Year | \$293,327.00 |
| Total Project Expenditure to date | | \$61,508.00 |
| % of Total Project Budget Expended | | 20.97% |
| | | |
| Task Order Number/ Study Number | 2 Year | NCTIP-034 |
| Current Task Order Budget (# of Years) | | \$55,165.00 |
| Actual Expenditure to Date Against Current Task Order | | \$14,000.00 |
| % of Current Task Order Budget Expended | | 25.38% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Good Neighbor Privacy Fence | | |
| RFP Number: 2001-14 | NJDOT Research Project Manager: R Sasor | | |
| Task Order Number/Study Number nctip-35 | Principal Investigator: Golub, Eugene | | |
| Period Starting: 01/01/2002 - 09/30/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---------------------------------|-------------------|-----------------------------------|------------------------------|--------------------------------|
| phase 1- Literature review | 8 | 0 | 100 | 8 |
| Task 1: Partner with industry | 8 | 5 | 75 | 6 |
| Task 2: Contact industry | 15 | 0 | 100 | 15 |
| Task 3: Design details | 20 | 5 | 95 | 19 |
| Task 4: Construction guidelines | 20 | 25 | 50 | 10 |
| Task 5: Complete guidelines | 20 | 30 | 30 | 6 |
| Task 6: Prepare report | 4 | 15 | 60 | 2.4 |
| Final Report | 5 | 40 | 40 | 2 |
| TOTAL | 100 % | | | 68.4 % |

1. Progress this quarter by task:

Project Progress: The literature search is complete.

Detailed information has been gathered on vinyl, concrete, fiberglass, steel, aluminum, block and landscape fences.

The team is also considering the approach of providing fencing on NJDOT property by providing an easement to the adjoining neighbor to select the type of fence from an approved list and then accepting responsibility for maintenance. This would allow for the use of landscape features that require routine maintenance that is then provided by the adjoining homeowner. This approach has been discussed with the AG's office. It is feasible and their staff is working out the details.

An interim annual report was written this quarter. This brought all of the information gathered in a single document. The various solutions studied were discussed in detail and identified as feasible or not feasible. This document has been reviewed by NJDOT and their comments are being incorporated into the report.

Current products available in the market place have been studied to modify the basic designs to increase the life span of the product and reduce routine maintenance to the smallest level possible.

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2. Proposed activities for next quarter by task:

Finalize the designs of all fences.

Prepare the first draft of the final report.

3. List of deliverables provided in this quarter by task (product date):

Interim Annual Report.

Method to place fence on adjoining property.

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

none

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$101,090.00 |
| Total Project Expenditure to date | | \$41,409.00 |
| % of Total Project Budget Expended | | 40.96% |
| | | |
| Task Order Number/ Study Number | 2 Year | nctip-35 |
| Current Task Order Budget (# of Years) | | \$50,109.00 |
| Actual Expenditure to Date Against Current Task Order | | \$13,000.00 |
| % of Current Task Order Budget Expended | | 25.94% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Computer Modeling and Simulation of New Jersey Signalized Highways | | |
| RFP Number: 2001-01 | NJDOT Research Project Manager: Karl Brodtman, NJDOT | | |
| Task Order Number/Study Number 32 | Principal Investigator: Chien, Steven I-Jy | | |
| Period Starting: 1/1/02 - 12/31/03 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|--------------|---------------------------|----------------------|------------------------|
| Review of Literature and Current Practice | 4 | 0 | 100 | 3.8 |
| Prototype Development | 10 | 0 | 95 | 9.5 |
| Site Identification and Data Collection Needs | 10 | 0 | 100 | 10 |
| Data Collection | 15 | 0 | 100 | 15 |
| Network Modeling with SYNCHRO and CORSIM | 15 | 5 | 70 | 10.5 |
| Optimization of Signal Timing Plan with SYNCHRO and CORSIM | 20 | 20 | 70 | 14 |
| Generation of Traffic Signal Directives | 10 | 5 | 5 | 0.5 |
| Development of Tutorial for the NJDOT Engineers in the SYNCHRO Environment | 8 | 5 | 5 | 0.4 |
| Final Report with Documentation of SYNCHRO Models | 8 | 10 | 30 | 2.4 |
| Final Report | | | | |
| TOTAL | 100 % | | | 66.1 % |

1. Progress this quarter by task:

A model of base conditions with existing timing plans was developed for Route 23. The results of the base model were verified in the field to determine consistency with Synchro model output. A first pass optimization, looking at modifications to green times and cycle lengths only, was conducted. These results were presented at a meeting May 12. The base model continues to be developed for Route 42/322. Traffic count data provided by Louis Berger and Associates was entered and was "balanced" where appropriate. However, the study team required additional information for Route 42/322 prior to finalizing the base model. A list of missing data was provided at the May 12 meeting. A format for developing timing directives of the optimized conditions was also presented.

2. Proposed activities for next quarter by task:

1. Finalize the Route 42/322 base model in Synchro. 2. Finalize timing directives for the Route 23 optimization. 3. Commence optimization of the Route 42/322 model.

3. List of deliverables provided in this quarter by task (product date):

Quarterly Progress Report

SYNCHRO 5.0 Networks (Rt 23 and Rt 42/322)

4. Progress on implementation and training activities:

none yet

5. Problems/proposed solutions:

none yet

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$222,078.00 |
| Total Project Expenditure to date | | \$155,456.00 |
| % of Total Project Budget Expended | | 70.00% |
| | | |
| Task Order Number/ Study Number | 2 Year | 32 |
| Current Task Order Budget (# of Years) | | \$72,493.00 |
| Actual Expenditure to Date Against Current Task Order | | \$66,622.00 |
| % of Current Task Order Budget Expended | | 91.90% |

Quarterly Progress Report

| | | | |
|--|--|--|--|
| Project Title: | Development of a Simulation/Assignment Model for an ITS Priority Corridor in New Jersey | | |
| RFP Number: 1999-27 | NJDOT Research Project Manager: Karl Brodtmat, NJDOT | | |
| Task Order Number/Study Number NCTIP-32 | Principal Investigator: Chien, Steven I-Jy | | |
| Period Starting: 03/01/2001 - 05/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|------------|------------------------|-------------------|---------------------|
| Corridor Identification and Modeling Needs | 9 | 0 | 100 | 9 |
| Review of Existing Data Sources and Identification of Additional Data Needs | 7 | 0 | 100 | 7 |
| Modification of VISTA Simulation and Routing Models | 12 | 0 | 100 | 12 |
| Data Conversion and Input into the VISTA DB | 6 | 0 | 100 | 6 |
| Validation and Testing of the VISTA Simulation and Routing Models; Performance | 6 | 0 | 100 | 6 |
| Development of Two Tutorials and Training of the NJDOT Engineers in the VISTA environment | 4 | 0 | 100 | 4 |
| First Year Report with Documentation of the Simulation and Routing Models | 4 | 0 | 100 | 4 |
| Improvements to the Simulation and Routing Models based on the outcome of Task 6 | 16 | 0 | 100 | 16 |
| Development of a Cost/Benefit Analysis Module for the NJDOT ITS Priority Corridor | 16 | 70 | 100 | 16 |
| Additional Data Needs and Conversion to the VISTA DB | 4 | 10 | 100 | 4 |
| Validation and Testing of the Cost/Benefit Analysis Module | 6 | 40 | 100 | 6 |
| Final Report, Enhancement of the Tutorial and Training | 5 | 30 | 100 | 5 |
| Final Report | 5 | 40 | 100 | 5 |
| TOTAL | 100 % | | | 100.0 % |

1. Progress this quarter by task:

1. The final workshop for NJDOT engineers and planners will be delivered on 6/16.
2. Modules for cost/benefit analysis were completed.
3. Bus transit routes were Incorporated into the VISTA system. This is in conjunction with the project sponsored by the Great Cities University Consortium (CCNY-CUNY), the TIDE center (NJIT).
4. Park and Ride facilities were incorporated into VISTA and emulate the bus and train routes that serve these facilities. This is in conjunction with the Park and Rides project of NJDOT.
5. The final report is completed.

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2. Proposed activities for next quarter by task:

3. List of deliverables provided in this quarter by task (product date):

- (1) Final Report.
- (2) Workshop and Training Tutorial

4. Progress on implementation and training activities:

Prepare materials for the final workshop at NJDOT on 6/16
Finisf the final report

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$375,100.00 |
| Total Project Expenditure to date | | \$375,100.00 |
| % of Total Project Budget Expended | | 100.00% |
| | | |
| Task Order Number/ Study Number | 2 Year | NCTIP-32 |
| Current Task Order Budget (# of Years) | | \$187,550.00 |
| Actual Expenditure to Date Against Current Task Order | | \$187,550.00 |
| % of Current Task Order Budget Expended | | 100.00% |

Quarterly Progress Report

| | | | |
|---|---|--|--|
| Project Title: | Effectiveness of Certain Design Solutions on Reducing Vehicle Speeds | | |
| RFP Number: 37 | NJDOT Research Project Manager: Karl Brodtman | | |
| Task Order Number/Study Number NCTIP-37 | Principal Investigator: Daniel, Janice R. | | |
| Period Starting: 1/1/2003 - 6/30/2004 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|-------------------------------------|------------|---------------------------|----------------------|------------------------|
| PHASE I - Literature Search | 15 | 50 | 50 | 7.5 |
| Task 1. Presentation of Findings | 5 | 100 | 100 | 5 |
| Task 2. Accident Analysis | 20 | 35 | 75 | 15 |
| Task 3. Human Factors Study | 40 | 10 | 15 | 6 |
| Task 4. Plan and Budget Development | 10 | 0 | 0 | 0 |
| Task 5. Reporting | 10 | 5 | 5 | 0.5 |
| Final Report | | | | |
| TOTAL | 100 % | | | 34.0 % |

1. Progress this quarter by task:

During the past quarter, the research team has been involved in completing Task 2, reviewing accident records to determine locations where speed related fatalities occurred and determining whether these sites would benefit from the installation of speed reduction techniques. To identify locations where traffic calming may be warranted, an accident investigation was performed using crash data from both the National Highway Traffic Safety Administration's (NHTSA's) Fatality Analysis Reporting System (FARS) database and the New Jersey Department of Transportation (NJDOT) accident database. The FARS database contains data on all vehicle crashes in the United States that occur on a public roadway and involve a fatality in the crash. NJDOT's accident database includes all accidents including fatal, injury or property damage for all counties within the state. Using both the FARS database and the NJDOT accident database, all pedestrian and pedalcyclist fatal crashes between 1997 and 2000 were identified for the state of New Jersey. The final result of the accident analysis will be a list of 20 locations where the human factors study will be performed.

2. Proposed activities for next quarter by task:

During the next quarter the research team will work on Task 3, to prepare a before and after study plan outlining the laboratory human factors study to determine the appropriate speed reduction techniques. The human factors study is currently being developed for one location to identify any problems with the techniques being used.

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3. List of deliverables provided in this quarter by task (product date):

Technical Memorandum on the national and international literature search.

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$153,232.00 |
| Total Project Expenditure to date | | \$11,974.00 |
| % of Total Project Budget Expended | | 7.81% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-37 |
| Current Task Order Budget (# of Years) | | \$76,822.00 |
| Actual Expenditure to Date Against Current Task Order | | \$11,974.00 |
| % of Current Task Order Budget Expended | | 15.59% |

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| | | | |
|--|--|--|--|
| Project Title: | Study of Optimal Travel Speed Limits for Shared Traffic | | |
| RFP Number: 2002-28 | NJDOT Research Project Manager: Karl Brodtman | | |
| Task Order Number/Study Number NCTIP-043 | Principal Investigator: Yang, Jian | | |
| Period Starting: 01/01/2003 - 12/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|-------------------|-----------------------------------|------------------------------|--------------------------------|
| Phase I. Literature Review | 10 | 15 | 90 | 9 |
| Task 1. Review Current Speed Limit Criteria | 10 | 40 | 90 | 9 |
| Task 2. Compare NJ Speed Limit Criteria to Others | 10 | 40 | 90 | 9 |
| Task 3. Review Attributes for Low-speed Roads | 10 | 35 | 60 | 6 |
| Task 4. Assess Data | 15 | 90 | 90 | 13.5 |
| Task 5. Identify Speed Factors | 15 | 60 | 60 | 9 |
| Task 6. Establish Procedure for Setting Speeds | 10 | 0 | 0 | 0 |
| Task 7. Identify Locations for Implementation | 10 | 0 | 0 | 0 |
| Task 8. Final Report | 10 | 20 | 30 | 3 |
| Final Report | | | | |
| TOTAL | 100 % | | | 58.5 % |

1. Progress this quarter by task:

During this quarter, the research team started to conduct Tasks 4 and 5. In particular, the team used logistical regression techniques to establish a statistical model which can examine the relationship between pedestrian injury severities with various factors including speed limits, annual average daily traffic volumes, road types, numbers of lanes. Currently, the data collection effort including field trips is nearing its completion.

Work was performed on completing Task 3, Review attributes for roads posted less than 25-mph speed limit. To obtain information on the characteristics of roadways posted less than 25-mph speed limit, the research team contacted personnel within NJDOT responsible for setting speeds on roadways across the State. The response received indicated that public roadways within New Jersey are not posted at speed limits less than 25 mph except for: (1) school zones; (2) alleys; and (3) roadways located within office parks and residential complexes. As these roadways are posted at lower speed limits because of policy, the research team did not believe the attributes of these roadways would provide insight into the geometric and volume characteristics of roadways where posted speed limits less than 25-mph would be appropriate.

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A review of State speed laws for all States in the U.S. also indicated no posted speed limits less than 25 mph are used on residential and business roadways except for special conditions such as for school zones, alleys, beaches, and other type roadways. A review of international practices identified the use of 20-mph speed zones in the United Kingdom. These 20-mph speed zones was a result of a Slower Speeds Initiative in 1998 that called on the government to use 20-mph speed limits in most built-up areas. The speed limits are to be enforced through the use of traffic cameras, traffic calming, and enforcement. The 20-mph speed zones have been successful in reducing vehicle speeds and casualties. One report indicated that there were over 200 20-mph speed zones. The length of the zones, however, are relatively short, as the costs associated with applying enforcement techniques to the majority of residential roadways would be prohibitive.

2. Proposed activities for next quarter by task:

In the next quarter, the research team will run the logistical model with the complete data set: a table of information about past accidents involving pedestrian injuries. Using the relationship found between pedestrian injury severities and factors including speed limits, AADT, road types, and other factors, the team will identify the most significant attributes that affect the injury severities. Then, the team will establish a formula for the desirable speed limit under any condition stated in terms of the attributes using the criterion that such a speed limit should not lead the pedestrian injury severity to exceed a certain predetermined level.

The research team will also continue to gather information on the 20-mph speed zones. There is limited literature sources on the zones and some locations in Great Britain may be contacted to get further information on the attributes of roadways where the 20-mph speed limit was installed.

Following the above more theoretical study, the team will identify within New Jersey locations where new speed limits should be implemented.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$172,641.00 |
| Total Project Expenditure to date | | \$48,869.00 |
| % of Total Project Budget Expended | | 28.31% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-043 |
| Current Task Order Budget (# of Years) | | \$87,819.00 |
| Actual Expenditure to Date Against Current Task Order | | \$48,869.00 |
| % of Current Task Order Budget Expended | | 55.65% |

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| | | | |
|--|--|--|--|
| Project Title: | Corrugated Steel Culvert Pipe Deterioration | | |
| RFP Number: 2002 – 02 | NJDOT Research Project Manager: Mr. Robert Sasor | | |
| Task Order Number/Study Number TO-42 | Principal Investigator: Meegoda, Jay N. | | |
| Period Starting: 1/1/2003 - 12/31/2004 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|-----------------------------|-------------------|-----------------------------------|------------------------------|--------------------------------|
| Phase I – Literature Search | 9.5 | 47 | 100 | 9.5 |
| Phase II – Task 1 | 6 | 15 | 15 | 0.9 |
| Phase II – Task 2 | 6 | 15 | 15 | 0.9 |
| Phase II – Task 3 | 6 | 10 | 10 | 0.6 |
| Phase II – Task 4 | 6 | 0 | 0 | 0 |
| Phase II – Task 5 | 6 | 0 | 0 | 0 |
| Phase II – Task 6 | 9.5 | 0 | 0 | 0 |
| Phase II – Task 7 | 6 | 0 | 0 | 0 |
| Phase II – Task 8 | 15.0 | 0 | 0 | 0 |
| Phase II – Task 9 | 15.0 | 0 | 0 | 0 |
| Final Report | 15.0 | 0 | 0 | 0 |
| TOTAL | 100 % | | | 11.9 % |

1. Progress this quarter by task:

APPROXIMATELY 12%

2. Proposed activities for next quarter by task:

Phase II Task 1 - Contact other state DOT's, making sure to include the Northeast states, to find out their experience with using CSCP.

Phase II Task 2 - Study methods for inventorying, inspecting, and cleaning CSCP used by other states. Determine optimum inspection and cleaning schedules and the best techniques and equipment to use.

Phase II Task 3 - Study means of assessing the condition of CSCP, estimating pipe deterioration rates, and predicting service life for pipes in different parts of the state and with different uses.

Phase II Task 6 - Study methods of inspection and maintenance record keeping and data storage used by other states. Examine data entry forms. Consider the benefits of storing CSCP pipe data in a centralized database, so that it could be easily accessed statewide to facilitate decision-making.

Phase II Task 6 - Determine the conditions for which CSCP should be used in new construction.

3. List of deliverables provided in this quarter by task (product date):

Report based on Literature Search

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4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$282,766.00 |
| Total Project Expenditure to date | | \$12,000.00 |
| % of Total Project Budget Expended | | 4.24% |
| | | |
| Task Order Number/ Study Number | 1 Year | TO-42 |
| Current Task Order Budget (# of Years) | | \$91,863.00 |
| Actual Expenditure to Date Against Current Task Order | | \$12,000.00 |
| % of Current Task Order Budget Expended | | 13.06% |

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| | | | |
|--|---|--|--|
| Project Title: | Alternate Performance Measures for Evaluating Congestion | | |
| RFP Number: 2001-20 | NJDOT Research Project Manager: Nancy Ciaruffoli | | |
| Task Order Number/Study Number NCTIP-41 | Principal Investigator: Rowinski, Jakub P | | |
| Period Starting: 01/01/2002 - 03/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|---------------------------|----------------------|------------------------|
| Task 1.1 Literature Search | 8 | 0 | 100 | 8 |
| Task 1.2 Literature Search Presentation | 8 | 0 | 100 | 8 |
| Task 2.1 Current Congestion Data | 8 | 20 | 40 | 3.2 |
| Task 2.2 Existing Performance Data | 8 | 20 | 40 | 3.2 |
| Task 2.3 Existing Congestion Baseline | 16 | 10 | 80 | 12.8 |
| Task 2.4 Labor and Industry Data | 8 | 0 | 100 | 8 |
| Task 2.5 Determine Costs of Congestion | 16 | 20 | 60 | 9.6 |
| Task 2.6 Study Program Effectiveness | 12 | 0 | 0 | 0 |
| Task 2.7 Quarterly Progress and Final Report | 8 | 10 | 60 | 4.8 |
| Task 3.1 Demonstration/Initial Training | 4 | 0 | 0 | 0 |
| Task 3.2 Follow-up Training Session | 4 | 0 | 0 | 0 |
| Final Report | | | | |
| TOTAL | 100 % | | | 57.6 % |

1. Progress this quarter by task:

Phase 2 – Research approach

Task 2.1: Research, collect and analyze current congestion data, methodology and practices

Research of current methodology and practices continued this quarter.

Task 2.2: Collect and analyze existing congestion performance measure data

The analysis continued this quarter as part of the preparation for updating the costs of congestion program.

Task 2.3: Determine an existing congestion level baseline with feedback from focus groups

The web-based survey distribution has been extremely successful. As of today there have been 1148 registered responses. The success is due in large part to the April 14, 2003 NJDOT Press Release. Additionally, the web-based survey was

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distributed via office wide announcements at NJDOT and NJ Transit as well as through the TMAs. Preliminary analysis of the survey responses has begun.

Task 2.5: Develop a program that will determine the costs of congestion.

Work continued on this task over the last quarter.

2. Proposed activities for next quarter by task:

Phase 2 – Research approach

Task 2.3: Determine an existing congestion level baseline with feedback from focus groups

Task 2.5: Develop a program that will determine the costs of congestion

Task 2.7: Prepare final report

Phase III - Implementation and training

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$170,509.00 |
| Total Project Expenditure to date | | \$101,200.00 |
| % of Total Project Budget Expended | | 59.35% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-41 |
| Current Task Order Budget (# of Years) | | \$0.00 |
| Actual Expenditure to Date Against Current Task Order | | \$0.00 |
| % of Current Task Order Budget Expended | | 0.00% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Improvement of Continuity Connections Over Fixed Piers | | |
| RFP Number: 2000-23 | NJDOT Research Project Manager: Tony Chmeil | | |
| Task Order Number/Study Number TO-27 | Principal Investigator: Saadeghvaziri, M. A. | | |
| Period Starting: 1/1/2001 - 12/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|---------------------------|----------------------|------------------------|
| Literature review | 4 | 0 | 100 | 4 |
| FEA work | 21 | 4.7 | 100 | 21 |
| Instrumentation/In-field measurements | 21 | 0 | 100 | 21 |
| Comparison/FEA | 14 | 14.3 | 100 | 14 |
| Recommendations for changes to existing design | 9 | 0 | 100 | 9 |
| Interim report | 2 | 0 | 100 | 2 |
| New connection | 16 | 0 | 62.5 | 10 |
| Laboratory tests | 5 | 40 | 40 | 2 |
| Specs. | 5 | 0 | 0 | 0 |
| Final report | 3 | 0 | 0 | 0 |
| Final Report | | | | |
| TOTAL | 100 % | | | 83.0 % |

1. Progress this quarter by task:

Second specimen (reinforced with CFRP) was tested. Results are being investigated. A model to define degree of continuity is proposed and correlation with field test results is being assessed.

2. Proposed activities for next quarter by task:

Built and test additional specimens. Also, the specimen tested will be repaired and tested again.

Initiate development of CAD tool for design of this class of bridges.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 3 Year | \$226,319.00 |
| Total Project Expenditure to date | | \$107,696.00 |
| % of Total Project Budget Expended | | 47.59% |
| | | |
| Task Order Number/ Study Number | 2 Year | TO-27 |
| Current Task Order Budget (# of Years) | | \$152,376.00 |
| Actual Expenditure to Date Against Current Task Order | | \$107,696.00 |
| % of Current Task Order Budget Expended | | 70.68% |

Quarterly Progress Report

| | | | |
|---|--|--|--|
| Project Title: | Effectiveness of Bus Nubs for Bus Stops | | |
| RFP Number: 2000-25 | NJDOT Research Project Manager: Vincent Nichnadowicz | | |
| Task Order Number/Study Number NCTIP-43 | Principal Investigator: Daniel, Janice R. | | |
| Period Starting: 1/02/02 - 12/31/03 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|-------------------|-----------------------------------|------------------------------|--------------------------------|
| Task A. Perform a literature review. | 5% | 0 | 100% | 5% |
| Task 1. Identify a limited number of urban bus stop locations that could be considered for bus nub installation. | 10% | 0 | 100 | 10% |
| Task 2. Develop from the literature or elsewhere a specification document that provides measurements and guidance for proposed test bus nubs to be built. | 10% | 0 | 75 | 7.5% |
| Task 3. Prepare plans in sufficient detail for the agreed upon test nubs to allow for contractor installation. | 5% | 0 | 70 | 3.5% |
| Task 4. Develop a methodology to evaluate effectiveness of the alternate | 5% | 0 | 90 | 4.5% |
| Task 5. Conduct a before data collection | 10% | 20 | 62 | 6.2% |
| Task 6. Install bus nubs. | 20% | 0% | 0% | 0% |
| Task 7. Conduct an after data collection. | 10% | 0% | 0% | 0% |
| Task 8. Analyze the data. | 10% | 30 | 35 | 3.5 |
| Task 9. With the assistance of NJDOT and NJ Transit, develop for general publication a document explaining the rules and guidelines for the use of | 5% | 0% | 0% | 0% |
| Task 10. Prepare a project schedule to submit a quarterly, interim and final report that document the entire research effort. | 10% | 0 | 20% | 2% |
| Final Report | | | | |
| TOTAL | 100 % | | | 42.2 % |

1. Progress this quarter by task:

During the past quarter the research team has been involved in analyzing the data collected at Cedar Lane. An intersection analysis was performed of the two intersections to determine the level of service of the intersections. A pedestrian analysis was also performed to determine the level of service of the corners where the bus stops are currently located. The microsimulation model CORSIM was used to simulate the two intersections where data were collected. The simulation model was also tested to determine whether it can simulate the impacts of a bus nub on roadway operation.

Quarterly Progress Report

Additional data were also collected at Cedar Lane to ensure sufficient bus travel time data and bus speed profiles are available to perform the before/after analysis. This data is limited by the bus schedule and frequency and multiple days of data are needed to ensure sample sizes large enough to be statistically significant

2. Proposed activities for next quarter by task:

The research team is currently waiting for the bus nubs to be constructed at this location. During the next quarter, if the bus nubs are constructed, the research team will gather the after data at the Cedar Lane locations. The research team will also present a paper on "Identifying Locations for Installing Bus Nubs in Urban Areas". Using the CORSIM simulation, the research team will investigate bus frequency, dwell times, roadway volumes and signal timings that may make installing a bus nub feasible or infeasible at a location.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

Completion of the Draft Final Report by September, 2003 is subject to Teaneck Township constructing the bus nubs prior to this date. The research team has attempted to schedule a meeting with the NJDOT Design personnel. This meeting is still being scheduled.

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$118,785.00 |
| Total Project Expenditure to date | | \$60,116.00 |
| % of Total Project Budget Expended | | 50.61% |
| | | |
| Task Order Number/ Study Number | 2 Year | NCTIP-43 |
| Current Task Order Budget (# of Years) | | \$62,906.00 |
| Actual Expenditure to Date Against Current Task Order | | \$60,116.00 |
| % of Current Task Order Budget Expended | | 95.56% |

Quarterly Progress Report

| | | | |
|--|--|--|--|
| Project Title: | Survey of Driver Perceptions of Railroad and Light Rail Warning Devices/Grade Crossings | | |
| RFP Number: 2001-33 | NJDOT Research Project Manager: Karl Brodtman | | |
| Task Order Number/Study Number NCTIP-33 | Principal Investigator: Jeng, One-Jang | | |
| Period Starting: 1/1/2002 - 12/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|-------------------|-------------------------------|--------------------------|----------------------------|
| Phase I-Literature Search: Conduct a literature search of the current state of the practice | 10 | 100 | 100 | 10 |
| Phase II-Research Approach: Task 1: Determine the various types of railroad and light rail highway grade crossings in New Jersey | 5 | 100 | 100 | 5 |
| Task 2: Conduct a survey of other states for information | 10 | 100 | 100 | 10 |
| Task 3a: Catalog the individual active and passive railroad/light rail crossing devices in New Jersey | 5 | 0 | 90 | 4.5 |
| Task 3b: Arrange the devices in groups that would be found at typical crossings as found in the classification system in Task 1 | 5 | 0 | 90 | 4.5 |
| Task 4: Setup of laboratory experimental tasks, video and still image editing, programming for recording subject responses and data processing | 15 | 20 | 100 | 15 |
| Conduct a pilot study for the experiments; finalize experiment procedures | 10 | 50 | 100 | 10 |
| Conduct formal laboratory experiments | 10 | 30 | 35 | 3.5 |
| Perform data processing and statistical analysis for the laboratory experiments | 10 | 0 | 0 | 0 |
| Task 5: Technical Memorandum on the driver manual chapters, exam questions and answers | 10 | 0 | 0 | 0 |
| Task 6: Prepare and deliver the final report | 10 | 0 | 0 | 0 |
| Final Report | | | | |
| TOTAL | 100 % | | | 62.5 % |

1. Progress this quarter by task:

During the report quarter the research team finalized the preparation for the laboratory experiment. Still images and videos were taken from roads where there are railroad crossings. The images were processed and handled by a JAVA program. Video tapes were processed using a professional film editing software (Adobe Premiere 6.5). Short video clips (between 8 and 20 seconds) were selected from the original videotapes. There may or may not be railroad crossings in the video clips. Subjects were asked to view the video clips and judged whether they notice any clues about railroad crossings. Subjects were

Quarterly Progress Report

also asked to select proper actions from a list displayed on the screen where prompted in the video clips. The idea was to test subjects' perception and understanding about traffic control devices pertaining to railroad crossings.

Dr. Srmini continued to work on completing drivers manual search and comparisons among different states. He was also working on drafting a railroad crossing sections for all New Jersey driver's manuals.

2. Proposed activities for next quarter by task:

The research team will finish data collection for the laboratory experiment in the next quarter. Statistical analyses will be performed to learn from drivers' perspective what they perceive upon seeing various warning signs and traffic control devices. The information will be fed into the railroad crossing sections for all New Jersey driver's manuals.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$207,454.00 |
| Total Project Expenditure to date | | \$61,648.00 |
| % of Total Project Budget Expended | | 29.72% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-33 |
| Current Task Order Budget (# of Years) | | \$80,790.00 |
| Actual Expenditure to Date Against Current Task Order | | \$21,032.00 |
| % of Current Task Order Budget Expended | | 26.03% |

Quarterly Progress Report

| | | | |
|---|--|--|--|
| Project Title: | Improving Public Transit Schedules, Timetables People Can Actually Read | | |
| RFP Number: 22-2002 | NJDOT Research Project Manager: Edward Kondrath | | |
| Task Order Number/Study Number 38 | Principal Investigator: Fallat, George Alexander | | |
| Period Starting: Jan 1, 2003 - Dec 31, 2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|------------|------------------------|-------------------|---------------------|
| Task 1, Phase 1 – Literature Search | 10 | 25 | 100 | 10 |
| Task 1, Phase 2. Presentation of Literature Review Findings | 5 | 100 | 100 | 5 |
| Task 2: Develop a Proposed Methodology | 10 | 25 | 25 | 2.5 |
| Task 3: Apply New Wayfinding Methods | 10 | 0 | 0 | 0 |
| Task 4: Administer Survey | 15 | 0 | 0 | 0 |
| Task 5 – Compile Survey Results | 10 | 0 | 0 | 0 |
| Task 6 – Prepare Guidelines | 20 | 0 | 0 | 0 |
| Task 7 - Reporting | 20 | 20 | 40 | 8 |
| Final Report | | | | |
| TOTAL | 100 % | | | 25.5 % |

1. Progress this quarter by task:

The project team has continued to gather additional information to determine schedule formats being used by other bus transit agencies. The team has also conducted an initial review of several current NJ Transit bus schedules and has identified several deficiencies. A meeting was held with key NJTransit personnel May 21 to discuss the overall project, discuss our initial findings and lay out a revised project schedule. A follow-up meeting will be held in June to identify the routes to be studied, discuss the format of the focus group meeting and formally present the results of our literature review.

2. Proposed activities for next quarter by task:

Conduct focus group meetings.
Prepare draft prototype schedules and maps based on input from NJTransit as well as the results of the focus group meeting.

3. List of deliverables provided in this quarter by task (product date):

Task 1. Draft Literature Search submitted. Task 2. Met with project team to review focus group meeting arrangements. Task 2. Detailed literature review will be presented to the Research Team on June 24.

4. Progress on implementation and training activities:

None to date

Quarterly Progress Report

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$157,239.00 |
| Total Project Expenditure to date | | \$12,579.00 |
| % of Total Project Budget Expended | | 8.00% |
| | | |
| Task Order Number/ Study Number | 1 Year | 38 |
| Current Task Order Budget (# of Years) | | \$117,662.00 |
| Actual Expenditure to Date Against Current Task Order | | \$9,413.00 |
| % of Current Task Order Budget Expended | | 8.00% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Assess Impacts and Potential Benefits of Traffic Signal Priority for Buses | | |
| RFP Number: 2000-28 | NJDOT Research Project Manager: Nick Vitillo | | |
| Task Order Number/Study Number NCTIP-45 | Principal Investigator: Daniel, Janice R. | | |
| Period Starting: 1/02/002 - 06/30/02 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|-------------------|-------------------------------|--------------------------|----------------------------|
| Phase I. Assemble, Review & Synthesize Literature | 10% | 0 | 100% | 10% |
| Task 1. Survey Existing Systems Using Priority | 15% | 0 | 100 | 15% |
| Task 2. Identifying Promising Locations and Develop Plans | 25% | 0 | 100 | 25% |
| Task 3. Assessment of Operational Plans | 25% | 0 | 100 | 25% |
| Task 4. Prepare Reports | 25% | 30% | 60 | 15% |
| Final Report | | | | |
| TOTAL | 100 % | | | 90.0 % |

1. Progress this quarter by task:

During the past quarter, the research team has responded to comments regarding the simulation of Broad Street. The simulation, which was performed to demonstrate the impacts of signal priority at one New Jersey location, was revised to maintain the use of the existing bus lane exclusively for buses. The revised simulation continues to show that signal priority can reduce bus travel times and increase speeds without adversely impacting cross-street vehicles. Revisions to the simulation continue to be made to address additional comments received. The research team is currently considering including in the simulation model Market Street and Raymond Boulevard to demonstrate the impacts of signal priority on these cross-streets. As these revisions are made, the results of the simulation model will be included in the Draft Final Report.

2. Proposed activities for next quarter by task:

The research team will continue to respond to comments from an include the results of further simulation in the Draft Final Report.

3. List of deliverables provided in this quarter by task (product date):

None

4. Progress on implementation and training activities:

None

5. Problems/proposed solutions:

None

Quarterly Progress Report

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$281,008.00 |
| Total Project Expenditure to date | | \$66,952.00 |
| % of Total Project Budget Expended | | 23.83% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-45 |
| Current Task Order Budget (# of Years) | | \$138,109.00 |
| Actual Expenditure to Date Against Current Task Order | | \$66,952.00 |
| % of Current Task Order Budget Expended | | 48.48% |

Quarterly Progress Report

| | | | |
|--|--|--|--|
| Project Title: | Mobility Information Need for Limited English Proficiency Travelers | | |
| RFP Number: 2002-20 | NJDOT Research Project Manager: New Jersey DOT | | |
| Task Order Number/Study Number NCTIP-039 | Principal Investigator: Liu, Rachel | | |
| Period Starting: January 1, 2 - December 2 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|---------------------------|----------------------|------------------------|
| Literature Review | 10 | 100 | 100 | 10 |
| Identify Source of Information on LEP Groups | 5 | 90 | 75 | 3.75 |
| Identify and Classify the NJLEP population | 5 | 60 | 40 | 2 |
| Final Report | | | | |
| TOTAL | 100 % | | | 15.8 % |

1. Progress this quarter by task:

To date, we have conducted literature review and are in the process of composing the literature review Technical Memorandum.

We also searched the data sources of LEP population, and contacted various groups for future survey

2. Proposed activities for next quarter by task:

Conduct surveys of community groups in NJ and analyze the mobility information needs of such groups

3. List of deliverables provided in this quarter by task (product date):

Technical Memorandum on Literature Review

4. Progress on implementation and training activities:

In Progress

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$230,499.00 |
| Total Project Expenditure to date | | \$15,768.00 |
| % of Total Project Budget Expended | | 6.84% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-039 |
| Current Task Order Budget (# of Years) | | \$161,377.00 |
| Actual Expenditure to Date Against Current Task Order | | \$15,768.00 |
| % of Current Task Order Budget Expended | | 9.77% |

Quarterly Progress Report

| | | | |
|---|--|--|--|
| Project Title: | Fatigue Management, Rail Operations Personnel | | |
| RFP Number: 36 | NJDOT Research Project Manager: Karl Brodtman, NJDOT | | |
| Task Order Number/Study Number 36 | Principal Investigator: Jeng, One-Jang | | |
| Period Starting: 1/1/2002 - 8/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|------------|------------------------|-------------------|---------------------|
| Phase I ;V Literature Search | 5 | 0 | 100 | 5 |
| Phase II ;V Research Approach Task 1 ;V Detailed Literature Search | 10 | 0 | 100 | 10 |
| Task 2 ;V Presentation of Literature Findings | 5 | 0 | 100 | 5 |
| Task 3 ;V Determine Existing HOS guidelines | 25 | 30 | 100 | 25 |
| Task 4 Prepare HOS model for Crew Schedule Assessment and Design Tool | 30 | 20 | 60 | 18 |
| Task 5 ;V Prepare a Request for Proposal | 15 | 0 | 0 | 0 |
| Task 6 ;V Reporting | 10 | 8 | 30 | 3 |
| Final Report | | | | |
| TOTAL | 100 % | | | 66.0 % |

1. Progress this quarter by task:

A revised draft survey was provided to NJTransit for review. The team has also started preparing a Request for Proposal for a fully operational interactive tool for assessing operator fatigue. We are also scheduling a meeting with the UTU, which represents primarily NJTransit conductors, to gain further input and feedback.

2. Proposed activities for next quarter by task:

Finalize and administer survey and summarize results. Based on this information, the research team can commence subsequent tasks.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 2 Year | \$221,017.00 |
| Total Project Expenditure to date | | \$125,462.00 |
| % of Total Project Budget Expended | | 56.77% |
| | | |
| Task Order Number/ Study Number | 1 Year | 36 |
| Current Task Order Budget (# of Years) | | \$87,548.00 |
| Actual Expenditure to Date Against Current Task Order | | \$125,462.00 |
| % of Current Task Order Budget Expended | | 143.31% |

Quarterly Progress Report

| | | | |
|--|--|--|--|
| Project Title: | Pedestrian Safety and Mobility Aids for Crossings and Access to Bus Stops | | |
| RFP Number: 42 | NJDOT Research Project Manager: Nancy Ciaruffoli, NJDOT | | |
| Task Order Number/Study Number NCTIP-42 | Principal Investigator: Jeng, One-Jang | | |
| Period Starting: 1/1/2002 - 06/30/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|---------------------------|----------------------|------------------------|
| Task 1.1 Literature Search | 10 | 100 | 100 | 10 |
| Task 2.1 ;V Develop Initial Criteria for Site Selection | 10 | 100 | 100 | 10 |
| Task 2.2 - Select Potential Candidate Sites | 5 | 100 | 100 | 5 |
| Task 2.3 - Perform Initial Evaluation | 10 | 75 | 100 | 10 |
| Tasks 2.4 - Recommend Final Locations | 10 | 10 | 100 | 10 |
| Task 2.5 Develop Innovative Solutions Strategies and Aids | 20 | 80 | 100 | 20 |
| Task 2.6 ;V Perform Detailed Evaluation | 20 | 70 | 100 | 20 |
| Task 2.7 - Develop Implementation Plan | 10 | 80 | 100 | 10 |
| Task 2.8 Final Report | 5 | 100 | 100 | 5 |
| Final Report | | | | |
| TOTAL | 100 % | | | 100.0 % |

1. Progress this quarter by task:

The project team completed and administered user surveys at the two study locations and completed the driver perspective simulation. A draft report was submitted May 15 and is under review by the project team. A final report will be submitted June 30.

2. Proposed activities for next quarter by task:

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$133,469.00 |
| Total Project Expenditure to date | | \$87,524.00 |
| % of Total Project Budget Expended | | 65.58% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-42 |
| Current Task Order Budget (# of Years) | | \$70,825.00 |
| Actual Expenditure to Date Against Current Task Order | | \$45,417.00 |
| % of Current Task Order Budget Expended | | 64.13% |

Quarterly Progress Report

| | | | |
|--|--|--|--|
| Project Title: | Survey of Transit/Freight Rail Interactions | | |
| RFP Number: 2002-19 | NJDOT Research Project Manager: NJ DOT | | |
| Task Order Number/Study Number NCTIP-040 | Principal Investigator: Liu, Rachel | | |
| Period Starting: January 1, 2 - December 2 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---------------------------------|-------------------|-----------------------------------|------------------------------|--------------------------------|
| Literature Review | 10 | 100 | 100 | 10 |
| Survey of Peer Transit Agencies | 40 | 60 | 30 | 12 |
| Final Report | | | | |
| TOTAL | 100 % | | | 22.0 % |

1. Progress this quarter by task:

To date, we have conducted literature and are in the process of compiling the technical memorandum documenting the literature gathered and topics that pertinent to this research project.

2. Proposed activities for next quarter by task:

Survey transit systems composed of various commuter rail, light rail, and havey rail systems around the United States. One of the concentrated surveys will be conducted at the APTA commuter rail conference

3. List of deliverables provided in this quarter by task (product date):

Technical Memorandum of Literature Review

4. Progress on implementation and training activities:

IN progress

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$129,313.00 |
| Total Project Expenditure to date | | \$19,638.00 |
| % of Total Project Budget Expended | | 15.19% |
| | | |
| Task Order Number/ Study Number | 1 Year | NCTIP-040 |
| Current Task Order Budget (# of Years) | | \$129,313.00 |
| Actual Expenditure to Date Against Current Task Order | | \$19,638.00 |
| % of Current Task Order Budget Expended | | 15.19% |

Quarterly Progress Report

| | | | |
|---|--|--|--|
| Project Title: | Use of Neural/Dynamic Alg. to Predict Bus Travel Times under Congested Conditions | | |
| RFP Number: 2001-26 | NJDOT Research Project Manager: Edward Kondrath, NJDOT | | |
| Task Order Number/Study Number 44 | Principal Investigator: Chien, Steven I-Jy | | |
| Period Starting: 1/1/2002 - 5/31/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|---|------------|------------------------|-------------------|---------------------|
| Literature Review | 12.5 | 0 | 100 | 12.5 |
| Identify and Visit the Study Site/Route | 10 | 0 | 100 | 10 |
| Collect, Analyze and Process the Data Collected from NJ Transit | 15 | 0 | 100 | 15 |
| Select Software for Developing the Prediction Models | 10 | 0 | 100 | 10 |
| Develop Neural/Dynamic (ND) Prediction Models | 15 | 0 | 100 | 15 |
| Refine the Developed ND Model | 12.5 | 30 | 100 | 12.5 |
| Test and Evaluate the Developed Model | 12.5 | 40 | 100 | 12.5 |
| Final Report and Presentation | 12.5 | 50 | 100 | 12.5 |
| Final Report | | | | |
| TOTAL | 100 % | | | 100.0 % |

1. Progress this quarter by task:

1. The fine-tuning the developed prediction model was finished.
2. System evaluation and results analysis were finished.
3. The final report was developed and delivered to NJDOT/NJ Transit for review.

2. Proposed activities for next quarter by task:

3. List of deliverables provided in this quarter by task (product date):

Final report.

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 1 Year | \$145,047.00 |
| Total Project Expenditure to date | | \$145,047.00 |
| % of Total Project Budget Expended | | 100.00% |
| | | |
| Task Order Number/ Study Number | 1 Year | 44 |
| Current Task Order Budget (# of Years) | | \$145,047.00 |
| Actual Expenditure to Date Against Current Task Order | | \$145,047.00 |
| % of Current Task Order Budget Expended | | 100.00% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | ProMPTS (Project Management & Progress Tracking System) - Maintenance Service Contract | | |
| RFP Number: TO-41 | NJDOT Research Project Manager: Bob Sasor, NJDOT | | |
| Task Order Number/Study Number TO-41 | Pincipal Investigator: Tang, Chi | | |
| Period Starting: 1/1/2003 - 12/30/2003 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|-------------------------------------|------------|---------------------------|----------------------|------------------------|
| User Assistance - | 25 | 20 | 55 | 13.75 |
| routine maintenance and reporting - | 10 | 25 | 55 | 5.5 |
| programmed improvements - | 60 | 30 | 50 | 30 |
| Final Report | 5 | 0 | 0 | 0 |
| TOTAL | 100 % | | | 49.3 % |

1. Progress this quarter by task:

Many design modifications and error debugging have been done in time according to customer requirements. Improved functionality and forms such as exceptional list re-import has been modified. Most of tasks are progressed on schedule.

2. Proposed activities for next quarter by task:

continue to provide technical support to customers

3. List of deliverables provided in this quarter by task (product date):

Many design modifications and error debugging have been done in time according to customer requirements. Improved functionality and forms such as exceptional list re-import has been modified.

Most of tasks are progressed on schedule.

4. Progress on implementation and training activities:

Newer version application database and modified data database have been delivered and tested on NJDOT network

5. Problems/proposed solutions:

Customer needs to provide functionality requirements for item a, d, and e of Task 3 to start these improvements.

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|-------------|
| Total Project Budget (# Years) | 1 Year | \$50,379.00 |
| Total Project Expenditure to date | | \$3,200.00 |
| % of Total Project Budget Expended | | 6.35% |
| | | |
| Task Order Number/ Study Number | 1 Year | TO-41 |
| Current Task Order Budget (# of Years) | | \$50,379.00 |
| Actual Expenditure to Date Against Current Task Order | | \$3,200.00 |
| % of Current Task Order Budget Expended | | 6.35% |

Quarterly Progress Report

| | | | |
|--|---|--|--|
| Project Title: | Evaluation of design ideas for prevention of vehicles entrapment on railroad tracks due to improper left turns | | |
| RFP Number: 31 | NJDOT Research Project Manager: Karl Brodtman, NJDOT | | |
| Task Order Number/Study Number NCTIP-31 | Principal Investigator: Jeng, One-Jang | | |
| Period Starting: 4/1/2000 - 12/31/2002 (Start-End Date of Study) | Period Ending: 05/29/2003 | | |

| Task | % of Total | % of Task this quarter | % of Task to date | % of Total Complete |
|--|------------|------------------------|-------------------|---------------------|
| Review and analysis of literature and accident reports | 10 | 100 | 100 | 10 |
| Setup of laboratory equipment | 5 | 100 | 100 | 5 |
| Conduct pilot experiments | 5 | 100 | 100 | 5 |
| Conduct formal experiments | 20 | 100 | 100 | 20 |
| Perform data processing and statistical analysis | 10 | 100 | 100 | 10 |
| Selection and modification of design ideas | 10 | 100 | 100 | 10 |
| Setup of design prototypes for field studies | 10 | 100 | 100 | 10 |
| Conduct pilot experiments for field studies | 10 | 100 | 100 | 10 |
| Conduct formal experiments for field studies | 10 | 90 | 100 | 10 |
| Perform data processing and statistical analysis | 10 | 50 | 60 | 6 |
| Final Report | | | | |
| TOTAL | 100 % | | | 96.0 % |

1. Progress this quarter by task:

As reported during the previously quarterly progress report meeting, the railroad crossing treatments for the field study was finished by a NJTransit contractor in mid January. Since then the temperature has been below the minimal temperature required for the two video camera to function properly (above 40 degrees) until the second week of March. There was only one video recording (out of six) as of the progress report date. It is anticipated that, since the temperature starts to rise, the video recordings can be completed within three weeks. The only tasks left for this project are statistical analysis of before and after comparison, and the project final report. The extended deadline for this project will be July 31.

2. Proposed activities for next quarter by task:

This will be the last quarter of the project.

3. List of deliverables provided in this quarter by task (product date):

4. Progress on implementation and training activities:

5. Problems/proposed solutions:

6. Budget summary:

Quarterly Progress Report

| | | |
|---|--------|--------------|
| Total Project Budget (# Years) | 3 Year | \$146,884.00 |
| Total Project Expenditure to date | | \$146,078.00 |
| % of Total Project Budget Expended | | 99.45% |
| | | |
| Task Order Number/ Study Number | 3 Year | NCTIP-31 |
| Current Task Order Budget (# of Years) | | \$56,212.00 |
| Actual Expenditure to Date Against Current Task Order | | \$56,119.00 |
| % of Current Task Order Budget Expended | | 99.83% |